The European market potential for mung beans

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Mung beans are an ingredient used in a variety of South Asian dishes. In Europe they are mostly consumed as sprouts, but some innovative food processors have begun to use them as pasta, ready-to-eat meals and healthy snacks, and in applications for plant-based animal product alternatives. The demand for mung beans outside of Asia (where they are an important food crop) has been growing steadily. Factors that drive up demand include a growing number of health-conscious consumers and the rise in public awareness about environmental and animal cruelty issues. This makes consumers seek plant-based protein sources and has opened up opportunities for new entrants to the European market.

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1. Product description

Mung beans (*Vigna radiata (L.) R. Wilczek*) have been cultivated in South-East Asia for thousands of years. Mung beans are a native plant of India and a staple of most Asian cuisines. It is only recently that they have spread to other continents. However, they have never become a major commercial crop outside Asia. In many South Asian countries, mung beans are amongst the most important grain legumes. The world's top producers of mung beans are India, Myanmar, China and Indonesia.

As a short-duration crop, mung beans take between 60 and 120 days to reach maturity and produce seeds. If stored under the right conditions, mung beans can keep for up to 36 months after harvest. Depending on the environment they grow in, mung beans contain 17-26% protein. This makes them a nutritious substitute for animal protein. They are also rich in minerals, provitamin A and vitamin B complex. They have higher digestibility than other pulses, making them suitable for children and the elderly. Mung beans can be eaten whole or split. Milled seeds (or mung bean flour) are used to prepare soups, porridge, snacks, bread and pasta. They can also be consumed as fresh vegetables in the form of sprouts.

Dried shelled mung beans of the species *Vigna radiata (L.) R. Wilczek*, whether or not skinned or split, are traded under the Harmonized System (HS) code 071331. This HS code also applies to urad beans (*Vigna mungo (L.) Hepper*). Mung and urad beans can be distinguished by their colour. Mung beans are green on the outside and yellow on the inside, urad beans are black on the outside and white on the inside.

Figure 1: Mung beans, whole, split and skinned



Source: Wikimedia commons – adjusted from Sanjay Acharya, CC-SA 3.0; Vimkay

2. What makes Europe an interesting market for mung beans? European demand for mung beans is growing

In Europe, mung beans are a popular product in ethnic cuisine. They are most commonly used for cooking, but demand for them as a food ingredient is growing, following a trend for plant-based and healthy foods. Consumers are growing more aware of the environmental impacts and ethical implications of livestock farming and are looking for vegan alternatives. Also, the high protein content of mung beans gives them good potential for the growing low-carb, high-protein market.

While mung beans have not achieved the same level of popularity in Europe as other pulses like chickpeas and dried peas, there has recently been modest yet steady growth in demand. Between 2017 and 2021, the imported volume grew at an annual rate of 2%. In 2021 Europe imported 45 thousand tonnes, which is almost 40% more than a year earlier, possibly reflecting the surge in demand for plant-based food during the COVID-19 pandemic (Figure 2). The value/kg of mung beans also shows a positive annual growth of 7% in the last five years. Worldwide, the mung bean market is predicted to grow at a CAGR of 4% by 2027, again due to the growing popularity of healthy and plant-based foods.

The global grain market is considered a flexible market and is used to source seeds from all over the world. The ability to be a trustworthy supplier, deliver quality seeds and guarantee continuity at a competitive price is most critical.

The demand for plant-based and healthy foods continues to grow

Globally, the demand for plant-based and healthy foods has been growing in the past years. But the COVID-19 pandemic saw an additional increase in consumers demanding foods that are good for their bodies as well as for the planet, and which are free from animal cruelty. This trend is even more pronounced in Europe, where almost three-quarters of consumers (PDF) have expressed their preference for plant-based and healthy foods. This development contributes to an increasing demand for mung beans, which are used for direct consumption, either cooked or as sprouts, and also as a food ingredient.

Mung beans are known for their high nutrient content, including proteins, minerals, fibre and vitamins. These qualities make them suitable for people looking for healthy and plant-based foods. They are also a valuable source for the protein isolate market. This is a market segment with a global value of US\$2.2 billion. With the

approval of mung bean isolate as a novel food in the UK in 2019 (and the 2021 determination by the European Food Safety Authority that mung bean protein is safe under novel food requirements), food applications from mung bean protein isolate are projected to be a turning point for mung beans in European mung bean protein industry is the third-largest market after APAC and North America.

These developments make the European market an attractive destination for mung bean producers seeking to export their products.

Tips:

Present yourself as a reliable and trustworthy partner. The mung bean market is still fragmented and it is crucial to build long-lasting trade relations between buyers and suppliers. Read more about Entering the European market for mung beans on the CBI website.

Stay informed about news in the plant protein market in New Protein (search for mung beans) and the developments around food ingredients on the European market by visiting the websites of The Spoon and Food Ingredients First.

3. Which European countries offer the most opportunities for mung beans?

Most of the European demand for mung beans comes from the UK, Belgium, the Netherlands, Germany, Italy and France. Potential growth can be expected from processors in the UK, Germany and the Netherlands. The Netherlands and Belgium will keep playing a key role as traders of mung beans for other European countries.

United Kingdom: Europe's largest importer of mung beans

The United Kingdom was Europe's second-largest importer of mung beans in 2021, but this demand has remained relatively high and stable for many years. The demand is partly driven by the country's Indian diaspora, which is estimated to be over 1.5 million strong. Demand is also driven by the popularity of Indian cuisine. Indian cuisine is the top-third most popular cuisine in the UK, while Indian curry is Britain's favourite home-cooked dish. These factors are likely to further increase the number of businesses selling Indian cooking ingredients, including mung beans.

The demand for mung beans is set to increase in the coming years in the wake of the UK Food Standard Agency's recent approval of isolated mung bean protein as a novel food (PDF). Mung bean protein isolate is increasingly used in the production of plant-based alternatives for animal products.

A major importer of mung beans (and mung bean products such as protein isolates and flour) in the UK is AGT Poortman. Specialised importers TRS and Western Impex serve the ethnic market.

Figure 4: Indian mung bean (moong dal) fritters



Source: Pixabay

Belgium: important trade hub

Belgium is one of the leading importers and distributors of mung beans in Europe. Key origins in 2021 were Myanmar, UAE and Tanzania. Most of the imported mung beans are re-exported either before or after processing, chiefly as sprouts. Belgian exports are largely directed to European countries. Belgium's mung bean imports were relatively low in 2017-2019, growing by 150% in 2020 and by 200% in 2021.

Belgium's domestic consumption of mung beans is mainly used for bean sprouts, followed by ethnic cuisine and healthy and plant-based foods.

The Netherlands: Europe's top producer of mung bean sprouts

In addition to its role as a global trade hub, the Netherlands is Europe's largest producer of mung bean sprouts – at least 75 tons of fresh sprouts every day. The Netherlands mostly imports mung beans for sprouting from Myanmar and China, and exports to Belgium, Germany, Denmark, France and the UK.

Mung beans have been a staple of Indonesian and Chinese restaurants and food shops (locally known as *tokos*), which are very popular among the Dutch and Asian immigrants alike. With the growing demand for healthy and plant-based foods, mung bean sprouts are now found in every supermarket, and Dutch supermarkets are also doing their part by promoting ethnic home cooking. Notably, Albert Heijn has launched a product line of fresh world food 'meal packages' (*maaltijdpakketten*), including South Asian ethnic dishes that contain mung bean sprouts.

Germany: the organic food market drives demand

Germany is Europe's largest market for organic foods. Germany's mung bean consumption is driven primarily by its demand for sprouts, plus a growing number of people are adopting vegetarian or flexitarian lifestyles. This is also pushing up the demand for legumes. The market segment is likely to grow further in the coming years. Organically certified suppliers of mung beans – either for direct consumption or for sprouting – have a competitive advantage in the German market.

The demand for plant-based foods and healthy foods is also boosting the development of food applications derived from bean protein. A promising product with a high success rate in the USA is JUST Egg, a plant-based egg replacement made from mung bean protein isolate, produced by Eat JUST. ESFA approval of mung bean protein isolate as a novel food is expected in the coming months. In anticipation of EFSA's approval, Eat JUST signed a long-term deal with German food ingredient supplier Emsland Group and poultry producer PHW Group to manufacture and distribute its mung bean-based egg replacement. The company has established partnerships in Germany because of the growing market for plant-based products. Following this trend, a handful of European start-ups in Germany, France, Italy and the UK are developing plant-based protein isolate egg alternatives.

Figure 5: Mung bean-based egg replacement



Source: kiliweb for Open Food Facts

Italy: health foods drive the demand for mung beans

Italy has been a steady yet modest importer of mung beans. Italy is the fifth-largest European importer of mung beans. Its total import volume is 1,705 thousand tonnes, representing 4.5% of total EU imports in 2021. Most mung bean imports into Italy are consumed domestically. Italy imports its mung beans from Myanmar and Argentina.

There are indications that mung beans are grown in Italy at a marginal scale, as part of the strategy of some small producers to enter the wellness market. This is a market segment that absorbs the majority of Italy's mung bean imports. Mung beans are sometimes used as new ingredients in traditional Italian dishes, but they are also increasingly replacing grain starch, which is used in the elaboration of Italian pasta.

France: popularity of plant-based and organic products drives demand

France's demand for mung beans is driven by a combination of consumer preferences for plant-based and organic foods. France, together with the Netherlands, has traditionally been an end market for mung bean sprouts. The growing popularity of ethnic foods and the promotion of ethnic convenience foods by some supermarkets is likely to push this demand further. Unlike other retailers in Europe, there is a larger variety of mung bean products in French supermarkets, like Carrefour.

France is currently the sixth-largest importer of mung beans in Europe, accounting for 4% of total imports in 2021. France imports mung beans mostly from Myanmar, Tanzania, China and Argentina.

Tips:

To find potential buyers, visit international trade fairs like SIAL, Anuga, Biofach or Food Ingredients Europe, or specific bakery fairs like Südback and iba.

Targeting importers and distributors in the Netherlands and Belgium can help you reach European markets and buyers that may be more difficult to connect with directly.

Check which mung bean products leading supermarkets offer and see which products and brands are common per country. Use this information to find potential channels and clients for your product. Most retail chains have their assortment and product information online, like the French supermarket Carrefour. You can find the list of Europe's supermarket chains on Wikipedia.

4. Which trends create opportunities or risks in the European mung bean market?

The demand drivers for mung beans include the growing popularity of ethnic foods in countries like the United Kingdom and the Netherlands. Likewise, a growing number of consumers searching for plant-based versions of animal products are driving up demand. An increasingly important driver is the growing number of people adopting low-carb, high-protein diets. Also, for a long time the sprouting segment has absorbed a considerable share of European mung bean imports. While sprouts are no longer the main end market for mung beans, their popularity continues to grow, especially in Western Europe. Europe does not produce mung beans and therefore relies on imports from third countries. This creates opportunities for mung bean producers in developing countries wanting to enter the European market.

Growing popularity of ethnic foods drives the demand for mung beans

For decades, the presence of ethnic groups from Europe's former colonies has been growing and their presence has influenced local food cultures in Europe. Nowadays, ethnic cuisines are no longer a niche market. Especially

in Western Europe, ethnic foods are now commonly found on mainstream supermarket shelves as well as in specialty shops and ethnic restaurants.

In the Netherlands, mung bean sprouts (taugé) are a staple of Indonesian cuisine, whereas in the UK moong dal (a stew prepared with skinned mung beans) (Figure 6) is popular.

One of the best-known companies in Europe selling ethnic food ingredients is TRS, a UK-based business founded over 50 years ago that supplies most ethnic food stores in Europe. RAYA, also UK-based, sources Asian food ingredients for sale on its webshop.

Figure 6: Moong dal (Indian mung bean stew)



Source: Wikimedia Commons; Miansari66.

Growing demand for plant-based foods leads to more demand for mung beans

Mung beans are a rich source of vitamins and minerals, including vitamin B9, potassium and magnesium, as well as dietary fibre and essential amino acids. They are also high in protein. This makes them a promising ingredient for vegan and health food products, a growing market in Europe. Consumers are increasingly aware of the environmental and health benefits of a plant-based diet and are therefore adopting vegan, vegetarian and flexitarian lifestyles. The plant-based food market in Europe has seen record growth, reaching a value of €3.6 billion in 2020. This is a 28% increase from 2019 and 49% from 2018.

The rising demand for plant-based products has boosted the search for plant-based food ingredients. A promising ingredient are protein isolates from pulses, including mung beans. Mung bean flour is sold as a standalone product ideal for people who want to follow a plant-based diet, and is also used in gluten-free chips (Figure 7) and in mung bean-based pasta products.

Even before plant-based products became more widely available, the trend towards sustainable, vegetarian and vegan diets was influencing the demand for mung bean sprouts in Western Europe. Mung bean sprouts are high in vitamin C, protein and fibre. This makes them a highly nutritious food that is suitable for people following a vegan or vegetarian diet.

European companies selling nutritious mung bean meals and snacks include:

- Jimmy Joy (the Netherlands, Germany, United Kingdom, USA)
- Terrasana (the Netherlands)

Figure 7: A mung bean product that taps on several market segments: healthy snacks, gluten-free and organic



Source: Profundo

Tip:

Emphasise the nutritional benefits of mung beans to help promote your product to food developers.

Demand for organic foods continues to grow

While the market for organic seeds remains small (compared to conventional foods), the demand for organic foods continues to grow. Mung bean producers from countries with low pesticide use, or that mostly farm using traditional methods, could have a competitive advantage by obtaining organic certification.

In Europe, Germany is the largest market for packaged organic food products (worldwide the second-largest, after the USA). This market is expected to grow by 4.2% every year until 2025. Germany is also an important market for other market segments such as low-carb, high-protein and plant-based foods. Therefore, suppliers of organic mung beans can find interesting opportunities on the German market.

Cono Agriculture, an Argentinian supplier of agricultural commodities, including mung beans, has made a name for itself in Europe as a supplier of organically certified foods. A lot of the PR focus of Cono Agriculture is on its commitment to sustainable agriculture, as well as social and environmental responsibility. This has allowed the company to tap the organic and kosher markets.

Tips:

Read CBI buyer requirements for grains, pulses and oilseeds to learn more about the requirements for the organic market in the EU.

Find potential organic buyers using the organic bio directory.

Growing popularity of low-carb, high-protein diets

Worldwide, the wellness sector has been attracting the interest of consumers who search for foods that are high in protein and low in carbohydrates. Consumer brands in Europe that are tapping into this growing segment by offering mung bean-based alternatives to traditional starches include:

- Body & Fit (the Netherlands)
- Wholy Greens (the Netherlands)
- Pasta Zeit (Germany)

Tip:

Find buyers of mung beans at Europages, the largest international business-to-business sourcing platform.

Demand for mung beans for animal feed is taking off

Because of their high energy value and protein content, mung beans are among the most suitable alternative protein sources for poultry and pigs. However, this potential remains untapped outside Asia, where mung bean bran and weathered mung beans are commonly used as animal feed. In the future, this market segment could present opportunities for mung bean producers in countries that want to enter the European market but still need to improve their operations to produce Grade-A mung beans.

Stricter rules for the import of seeds for sprouting

Because the likely source of the 2011 *E. coli* outbreak was a facility in Germany producing sprouted foods, in 2013 the European Union enacted more stringent legislation for the European sprouting sector. These regulations not only apply to European sprouters, but also affect imports of seeds for sprouting from third countries.

Particularly, producers and exporters that want to sell mung beans for sprouting in Europe must implement several measures along the supply chain to prevent contamination by salmonella and *E. coli*. Moreover, they must obtain a food safety certificate from the national authority (which in turn needs to be certified by the EU) verifying that no bacterial contamination has occurred at any stage of the production chain.

This has drastically reduced the number of enterprises supplying mung beans for sprouting to the European market. While this limited supplier pool could mean opportunities for new entrants to the European market, accessing this market segment is only possible in countries where a national control system already exists.

Tips:

Stay updated on new regulatory requirements for the sprouting seeds sector by regularly visiting the webpage of ESSA, the European Sprouted Seeds Association.

Keep up-to-date on technological developments and new food trends in Europe by visiting news websites, such as Food Navigator, Organic & Wellness News and Food Manufacture. Being well informed is part of becoming a successful supplier.

Read the CBI trend study for more insights on the European trends for grains, pulses and oilseeds.

Profundo carried out this study on behalf of CBI.

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